Remarks/Arguments:

Claims 1-3 and 5-18 are presently pending. Applicants herein amend claim 1. Reconsideration is respectfully requested in view of the above amendments and the following remarks.

Claim Rejections Under 35 U.S.C. § 103

Claims 1-3 and 5-18 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Kojima et al. (US Pub. 2004/0191094) in view of Sasaki et al. (US Pat. 6,727,627). It is respectfully submitted, however, that the claims are patentable over these references for the reasons set forth below.

Applicants' invention, as recited by claim 1, includes a feature which is not disclosed, taught, or suggested by the art of record, namely:

> the rotor core defines a hollow bore extending from a first axial end of the rotor core...and
>
> the rotor core includes a built-in permanent magnet ... the permanent magnet being positioned in the rotor core so that it extends from a second axial end of the rotor core opposite the hollow bore.

This means a hollow bore extends from one end of the rotor core. A permanent magnet is axially shorter than the rotor core, and is positioned so that it extends from the end of the rotor core opposite the bore. This feature is found in the originally filed application at page 13, lines 4-17, and FIG. 4. No new matter has been added.

The Office Action sets forth that Applicants' previous arguments are not persuasive because "claim 1 doesn't recite that the magnet extends from the end of the rotor core opposite the bore but merely state[s] that the permanent magnet is positioned so that it extends from a bottom end opposite the top end of the rotor." Applicants herein amend claim 1 to recite "the permanent magnet being positioned in the rotor core so that it extends from a second axial end of the rotor core opposite the hollow bore." Applicants submit that the art of record fails to disclose, teach, or suggest this feature.

Kojima is directed to an electric compressor which includes a motor. In the embodiment shown in FIG. 3, Kojima discloses a motor unit 303 including a rotor 314. Rotor 314 includes a

rotor core 315. A hollow bore 306 extends from the top axial end of rotor core 315. Rotor 314 further includes a permanent magnet 315a. Permanent magnet 315a is axially shorter than rotor core 315. Permanent magnet 315a is positioned so that it is axially centered in rotor core 315. See Kojima at paragraph [0052] and FIG. 3.

In the embodiment shown in FIG. 4, Kojima discloses a motor unit 403 including a rotor 414. Rotor 414 includes a rotor core 415. A hollow bore 306 extends from the top axial end of the rotor core 415. Rotor 414 further includes a permanent magnet 415a. Permanent magnet 415a is the same axial length as rotor core 415. See Kojima at paragraphs [0063] and [0064], and FIG. 4.

Sasaki is directed to a permanent magnet synchronous motor. As shown in FIG. 18, for example, the motor includes a rotor 41 including a rotor core 42 and a permanent magnet 45 in the rotor core 42. Rotor core 42 does not include a hollow bore. See Sasaki at column 19, lines 10-35, and FIG. 18.

As described above, Kojima discloses either (a) a permanent magnet 315a that is axially shorter than the rotor core 315 but does not extend from either end of rotor core 315; and (b) a permanent magnet 415a that is the same length as the rotor core 415. See FIGS. 3 and 4 of Kojima. Kojima fails to disclose, teach, or suggest a magnet that is shorter than the length of the rotor core and extends from a side of the rotor core opposite the bore.

Sasaki fails to make up for the deficiencies of Kojima with respect to claim 1. Sasaki only discloses a permanent magnet 45 extending substantially the length of rotor core 42. Sasaki fails to disclose, teach, or suggest rotor core 42 including a bore. Thus, Sasaki must also fail to disclose, teach, or suggest a magnet that is shorter than the length of the rotor core and extends from a side of the rotor core opposite a bore.

Applicants respectfully submit that the combination of the magnet 45 of Sasaki with the rotor core 315 of Kojima would not disclose, teach, or suggest the magnet and rotor core recited in the present invention. Kojima contemplates a magnet that is axially shorter than the rotor core (permanent magnet 315a). However, Kojima teaches positioning magnet 315a in the axial center of rotor core 315. See Kojima at FIG. 3. Additionally, because Sasaki does not disclose a bore in rotor core 42, Sasaki does not provide any teaching for positioning magnet 45 relative to a bore. Thus, Applicants submit that the combination of Kojima and Sasaki would result in a rotor core having a magnet positioned in the middle of the rotor core, as illustrated

in FIG. 3 of Kojima. This is because neither Kojima nor Sasaki discloses, teaches, or suggests positioning the permanent magnet such that it extends from an end of the rotor core opposite the bore.

Solely Applicants' disclosure teaches positioning the permanent magnet such that it extends from an end of the rotor opposite the bore. Accordingly, Applicants respectfully submit that Kojima in view of Sasaki fails to disclose, teach, or suggest "the rotor core includes a built-in permanent magnet, an axial length of the permanent magnet being less than an axial length of the rotor core, the permanent magnet being positioned in the rotor core so that it extends from a second axial end of the rotor core opposite the hollow bore," as recited in claim 1.

It is because Applicants include the features of a built-in permanent magnet positioned in the rotor core so that it extends from an end of the rotor core opposite the hollow bore that the following advantages are achieved. This structure allows the overlap between the permanent magnet, which extends from the bottom end, and the hollow bore, which extends from the top end, to be minimized. "In this configuration, the magnetic flux by permanent magnet 205 occurs in the large part having no bore 212 in rotor core 203, so that a magnetic path wider than the size of permanent magnet 205 can be formed, the material cost of permanent magnet 205 can be reduced without largely reducing the effective magnetic flux amount of permanent magnet 205. Therefore, the efficiency is increased and simultaneously the cost is reduced." See Applicants' specification at page 15, lines 7-12.

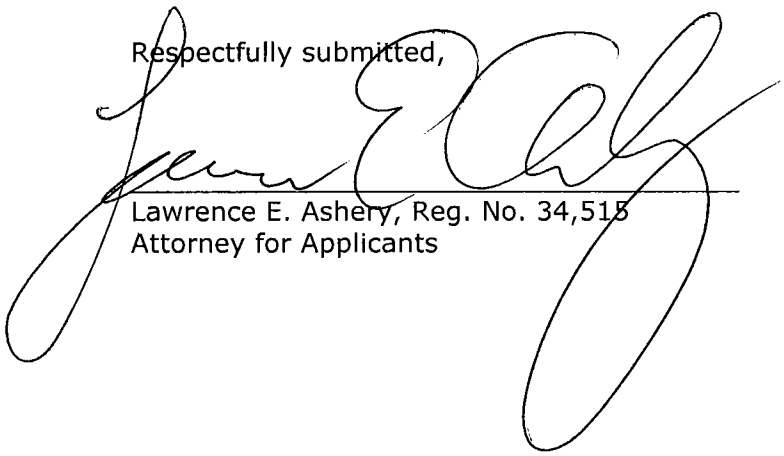
In contrast, as described above, the configurations disclosed by Kojima do not consider minimizing the overlap between the magnet and the hollow bore. Further, Sasaki fails even to disclose a hollow bore in the rotor core.

Accordingly, for the reasons set forth above, claim 1 is patentable over the art of record.

Claims 2, 3 and 5-18 include all features of claim 1 from which they depend. Thus, claims 2, 3 and 5-18 are also patentable over the art of record for the reasons set forth above.

In view of the amendments and arguments set forth above, the above-identified application is in condition for allowance which action is respectfully requested.

Respectfully submitted,



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